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Mauricio Guedes (until October 2015)

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ANDRÉ LIMA CORDEIRO

VICE PRESIDENT OF FIRJAN TECHNOLOGY CORPORATE COUNCIL (HOLDER REPRESENTATIVE)

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PRESIDENT OF RIO BUSINESS

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SUPERINTENDENT DIRECTOR OF SEBRAE / RJ (BRAZILIAN SUPPORT SERVICE FOR MICRO AND SMALL COMPANIES) | CEZAR VASQUEZ AND ALTERNATE REPRESENTATIVE

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FIOCRUZ PRESIDENT

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AND THE ALTERNATE REPRESENTATIVE

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PRESIDENT OF THE BIO RIO FOUNDATION

ANGELO LUIZ MONTEIRO DE BARROS

**CEO OF THE UFRJ SCIENCE PARK** 

JOSÉ CARLOS PINTO

## **PARTNERS**

MCTI- Ministry of Science, Technology and Innovation

State Government of Rio de Janeiro

City Government of Rio de Janeiro

FINEP - Studies and Projects Financial Supporter

CNPq - Brazilian National Council for Scientific and Technological Development

FAPERJ - Carlos Chagas Filho Foundation for Research Support in Rio de Janeiro

SEBRAE - Brazilian support service for micro and small companies

ANPROTEC - Brazilian Association of Science Parks and Business Incubators

ANPEI - National Association for Research and Development of Innovative Companies

IASP - International Association of Science Parks and Areas of Innovation

Rio Negócios

Fundo Verde UFRJ

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G4-28, G4-30, G4-31

## WHY DID THE SCIENCE PARK PREPARE A SUSTAI-NABILITY REPORT?

The report aims at making it public the results of the UFRJ Science Park's management. Here are included the main indicators of economic, financial, social and environmental performance of the institution from January 1 until December 2015.

According to the International Association of Science Parks and Areas of Innovation (IASP), this is a pione-ering initiative among science parks in Brazil and in the world. It is hoped that this series of reports be published yearly in April. Should there be any question, the reader is kindly requested to make contact by emailing sustentabilidade@parque.ufrj.br.

G4-32, G4-18, G4-20

#### WHICH METHODOLOGY WAS USED?

For the elaboration of the report the contents from the Global Reporting Initiative (GRI) in its G4¹ version were used. The information presented here refers to the management of the UFRJ Science Park as well as to the non-classified results that were made available by the companies of the Park and by the COPPE/UFRJ Business Incubator.

G4-20, G4-24, G4-25, G4-26,G4-27

#### **HOW WAS IT PREPARED?**

The sustainability report targets the agents illustrated in the Figure:

<sup>&</sup>lt;sup>1</sup> "The report presents standard contents from the GRI Guidelines for reporting sustainability". The list of the contents is given in the last pages of the report.

## AUDIENCES OF INTEREST

#### **ENTITIES**

Affiliations, Other S&T Institutions, Agencies for the development of Research and Innovation and Unions.

### GOVERNMENT

Municipal, State, Federal.

## INCUBATORS AND PARKS

Other national and international incubators and science parks.

### UNIVERSITY (UFRJ)

Rectory,
Pro-rectory,
Academic Units,
Undergraduate Studies,
Graduate Studies.

## EXTERNAL PUBLIC

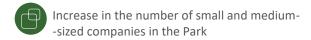
Civil Society, Embassies, Community Associations, NGOs and Foundations.

## INTERNAL PUBLIC

Tenants,
Special UFRJ Labs,
Business Incubator of Coppe,
the Park's Managements,
Service Providers.

To define the report's content, the following themes were adopted as work subject:





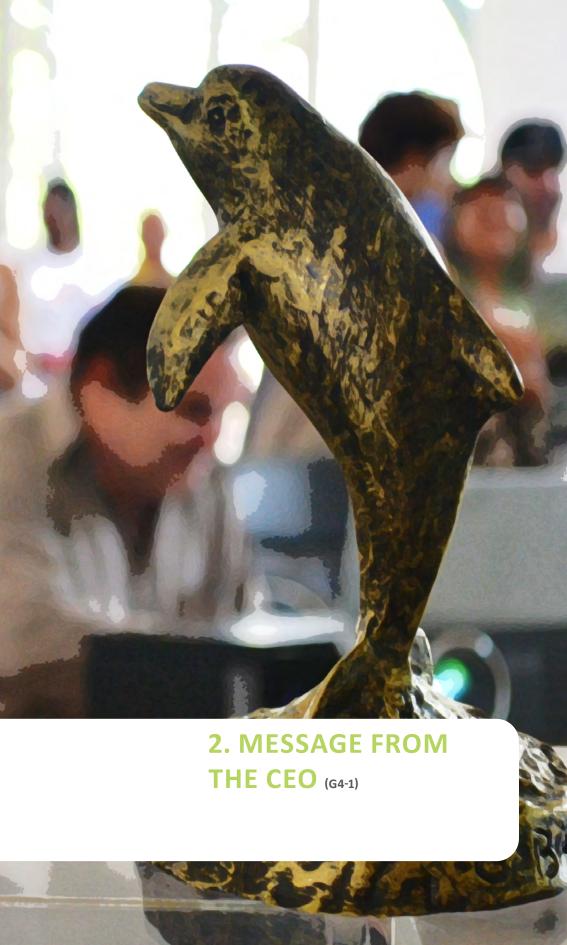






The Park's management teams, Board of Directors, collaborators and the executive board were asked to help select the contents to be included in this report. In addition, the following two activities were carried out: benchmarking of the best practices in sustainability in Brazil and in the world, and a workshop on strategic planning with the main leaders of the institution.

<sup>&</sup>lt;sup>2</sup> This means giving the Park's environment more life by generating greater integration intra community and providing services for a better life quality of its people.



The year of 2015 saw great changes in the context and organization of the environment in which the Science Park and the Federal University of Rio de Janeiro are located due to the difficulties in the political and economic areas that Brazil had to face. Nevertheless, good results were achieved throughout 2015 as it will be shown in this report. New agreements were reached on the main strategic challenges that have to be overcome over the short, medium and long term so as to consolidate the role that the Park plays as an innovative environment of relevance for the country and for the city of Rio de Janeiro.

In particular, it should be noted that the Park actively participated in the creation of the Constitutional Amendment no. 85, dated February 26 2015, which added the word innovation to the constitution. This way, it is now a state duty to promote innovation (in addition to scientific and technological activities) by organizing, building and maintaining science parks. We consider this a great progress reached in 2015 because we believe that the investment in research, development and innovation in the interface of university, government and innovative companies is crucial to overcome the contextual deadlocks and structural dilemmas that Brazil is going through. Undoubtedly, this is an important achievement for innovative entrepreneurship. For this reason, by working on the consolidation of the UFRJ Science Park as the best place for innovation, thereby placing Rio de Janeiro as the capital of innovation, we are clearly fulfilling part of the mission of UFRJ and of the Brazilian State itself.

In fact, 2015 reinforced this responsibility even more. As it saw strong upheavals in the political and economic areas, part of the organizations residing in the Park had to reposition themselves in strategic ways. The same happened to the Park's management which made all the necessary efforts to perfect its operations and act strategically so as to fulfill its mission of creating a cooperation environment between entrepreneurs and the academic community. This aimed at strengthening the capacity for innovation, wealth creation and society's welfare. Therefore, in 2015, 52 organizations of the Park (45 companies and 7 laboratories, on December 31, 2015) created 1647 high quality jobs (among which were 218 people who were

doing or had completed a Master's degree and 189 people who were doing or had completed a PhD). This contributed to the development and retention of talents in Rio. Additionally, 7,7 million reais were generated as taxes (ISS and ICMS) and the money from projects of cooperation with UFRJ signed by resident companies totalized over 10 million reais in 2015. We also received 847 visitors from 19 different countries, which helped disseminate our activities and make ourselves open to new challenges. For all these reasons, despite contextual difficulties, the environment of the Park is still well alive and bustling, as it should always be.

This report also provides details on other equally important results as well as topics that are considered strategic for the coming years: sectorial diversification, increase in the number of small and medium-sized companies, active participation in the Brazilian innovation system, aspects related to the humanizing of the Park, and ongoing search for actions on sustainability. In this particular context, it is necessary to take long term actions to become a reference in sustainability in the specific area of activity of the Park. They should include the balance between economic, environmental and social areas. For example, the decision of presenting this yearly report in agreement with the practices followed for the elaboration of sustainability reports represents a clear indication of that we are moving in the right direction. This is important for building collaboratively and announcing publicly the results of the management of the Park in a transparent way for the society in general.

A very relevant fact for 2016 is the creation of the new Strategic Planning of the Park, which includes a bold view on priority actions for the following 30 years. The planning should necessarily take into account the interests of the Park's main public as well as ideas on important aspects that impact our activities, such as the future of the economy in Rio de Janeiro, the future of the university, innovation, the various challenges raised by city growth and the necessity to develop and promote a low-carbon economy. We also believe it is necessary to think about the role of the Park as an important agent in the creation of a more inclusive, safe, resilient and sustainable future. These are the ways in which we would like to build the coming 30 years.

We are sure that the current difficulties will be overcome and that the Park will continue to work on being an inspiring leader in scientific, technological and innovative development at UFRJ, in Rio de Janeiro and in Brazil. This is the spirit that guided us in 2015 and that same spirit is guiding our ideas for the following 30 years.

José Carlos Pinto
Chief Executive Officer





## 31/12/2015

	,,	
350.000 m² área	45 resident companies	1647 directly created jobs
15 number of Intellectual property deposits	T labs	218 MA holders and MA students
projects hired to collaborate with UFRJ	7,7	189 PhD holders and PhD students
4,6	millions of collected taxes	5 centers and
millions generated from resources granted to UFRI coming from land concession in the Park	847 visitors, representing committees from	units involved in projects of cooperation between companies and UFRJ
Total amount from projects hired by companies partnering with UFRJ	19 countries	1,4
10,2 millions	96,2 thousand m <sup>2</sup> of green area	thousand m² bike lanes  880,6  thousand invested in sponsoring projects of university extension

### **CUMULATIVE**

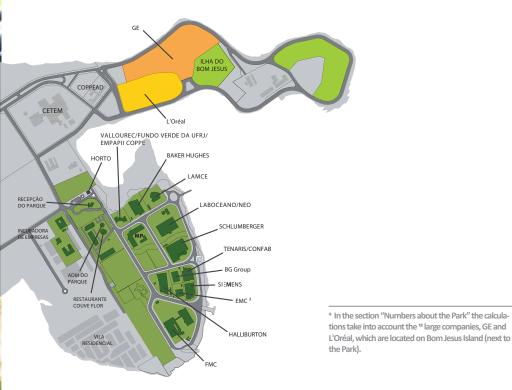
COMOLATIVE			
Total amount from projects hired by companies partnering with UFRJ 132,7 millions	19,1 millions transferred to UFRJ by the companies settled in the Park for land use		
19,4 millions <sup>3</sup> of collected taxes	900 millions		
880,6 thousand invested in sponsoring projects of university extension	invested in the creation, generation and operation of 14 R&D centers of the Park (cumulative value since the Park's inauguration)		



G4-3, G4-5, G4-7

The UFRJ Science Park is an environment of cooperation between entrepreneurs and the academic community. Its aims to strengthen innovation capacity, industrial competitiveness and entrepreneurial capacitation to create wealth and social inclusion. Located in the University City Island, the Park was opened on April 30, 2003 and it is a UFRJ project, without legal personality, which is directly linked to the Rector's Office. It currently hosts 12 large companies<sup>4</sup>, 4 small and medium-size companies, 7 laboratories and 27 startups. The startups are settled in Coppe/ UFRJ Business Incubator for a better integration with the other projects of the University. In a scenario of expansion of their activities, the companies GE and L'Oréal, located on Bom Jesus Island (next to the Park) increase and reinforce the ecosystem of innovation existing on the University Island.

The Park is a public undertaking whose objectives are aligned with those of the university. It has an area of 350 000 m2, which shows the potential for urban rehabilitation that undertakings of this sort can offer society. This is even more so when the focus is on the development of activities connected with the knowledge economy.



The Science Park has the following infrastructure:

- Reception building
- Administration building which includes the Park's administration and two auditoriums
- •Two shared buildings (for small and medium-sized companies)
- Garden
- Two piers
- Helipad





Reception building



Administration building which includes the Park's administration and two auditoriums







•Two shared buildings (for small and medium-sized companies)





Garden











Heliponto

G4-56

#### Mission

To create a cooperation environment between the entrepreneurial initiative and the academic community, aiming at strengthening the innovation capacity, the creation of wealth and the well-being of society.

#### Valeus

- Innovation through social and economic development ("to create a better world");
- Ethical behavior ("doing the right thing");
- Creativity, dedication and commitment ("doing it right");
- Local development ("loving Rio");
- High quality, public university with social responsibility ("education as the basis for social and economic development");
- Commitment to the environment ("harmony between technology and nature").

### Objectives

- To bridge the gap between the UFRJ academic community and the technology-based companies, creating opportunities for new cutting-edge research projects;
- To encourage the creation of innovative companies in Rio de Janeiro;
- To attract new research activities as well as the development and production of innovative goods and services to the University;
- To foster a sense of entrepreneurship among UFRJ students;
- To provide training and job opportunities for students from UFRJ and to facilitate their integration in the labor Market.

#### G4-4 SERVICES OF THE PARK

The Science Park offers the following services:

- Promotion of the interaction between the companies of the Park and of Coppe's Business Incubator and the research units of UFRJ;
- II. Establishment of direct and ongoing channels for the promotion of the cooperation between the university and the business world;
- III. Promotion of the interaction between the companies of the Park and Coppe's Business Incubator
- IV. Management support for the small and medium companies settled in the Park;
- V. Workshops, meetings and networking for resident companies, especially for the smaller ones and those that are starting up;
- VI. Mediation of contacts between companies and the university foundations (COPPETEC) for the establishment of cooperation contracts;
- VII. Support in the communication channels with agencies for the development of research and innovation, investors and other strategic partners;
- VIII. Elaboration, analysis and/or approval of architectural, urban, landscaping and engineering projects of the Park;
- IX. Property security of common areas;
- X. Conservation and maintenance of the landscape, renovation planting and management of the project for the common areas;
- XI. Operational management of the common areas of the Park: water, sewage, electrical and telecommunication systems, public lighting maintenance, daily waste collection and checking of manifests;
- XII. Image management for resident startup companies and support of the press office and of

the communication departments of small and medium-size companies;

- XIII. Access to the Perk's auditorium, which holds up to 70 people;
- XIV. Support and dissemination of social responsibility and of sustainability in the Park's environment; joint actions for Corporate Sustainability and Social Responsibility, mobility projects, volunteering projects, environmental education projects, dialogue with the communities around the Park and with other audiences of interest;

#### PARK'S GOVERNANCE (G4-34)

G4-34

The Governance system of the UFRJ Science Park consists of the combination of governance<sup>5</sup> and management mechanisms which aim at ensuring the full execution of its mission in an active manner.

The reference instruments that guide its action are the following:

- a) Regulation approved by the University Council in 1997:
- b) Master Plan (2002 version);
- c) Regulation for Land use and occupation;
- d) Public tenders (including selection criteria);
- e) Contracts.

The governance system of the Park was defined by the University Council and it is formed by a Board of Directors led by the Rector of UFRJ. It includes several University representatives as well as representatives from different areas of society, as shown in the Figure:

<sup>\*</sup>The management mechanisms will be described in the section "Park's management".

Conselho Diretor do Parque Tecnológico UFRJ

#### Reitor da UFRJ

Roberto Leher

#### Vice-Reitora da UFRJ

**Denise Nascimento** 

#### Pró-Reitor UFRJ

Ivan da Costa Marques

#### Prefeito da Cidade Universitária

Paulo Mário

#### Decano CCMN/UFRJ

João Graciano Mendonça Filho

#### Decana CCS/UFRJ

Maria Fernanda Santos Quintela da Costa Nunes

#### Decana CLA/UFRJ

Flora de Paoli Faria

#### Decana CFCH/UFRJ

Lilia Guimarães Pougy

#### **Decano CT/UFRJ**

Fernando Luiz Bastos Ribeiro

#### **FUNDAÇÃO COPPETEC**

Romildo Dias Toledo Filho

#### **GERENTE-EXECUTIVO CENPES)**

André Lima Cordeiro

## VICE-PRESIDENTE DO CONSELHO EMPRESARIAL DE TECNOLOGIA DA FIRJAN

Angela Maria Machado da Costa

#### SEDEIS-RJ

Sérgio Teixeira

#### SEBRAE/RJ

Cezar Vasquez

#### PRESIDENTE DA FIOCRUZ

Paulo Gadelha

#### REPRESENTANTE SUPLENTE

Jorge Bermudez

## REPRESENTANTE DAS EMPRESAS DO PAROUE TECNOLÓGICO DA UFRJ

Fred Arruda (EMC2) — Titular

### PRESIDENTE DA FUNDAÇÃO BIO RIO

Angelo Luiz Monteiro de Barros

#### DIRETOR DO PARQUE TECNOLÓGICO DA UFRJ

José Carlos Pinto

In addition to the Board of Directors, the governance mechanisms include the Committee for the Management of Articulations between UFRJ – Companies/ Science Park and the Advisory Committee of Architecture and Urban Planning. Among the main duties of the Board of Directors are the nomination of the Park's CEO, the definition and application of criteria for the selection of companies, and the definition of the price for the Park's services. The University Council has decided that the operational costs of the Park should be divided by its occupants, i.e. by the companies and the university labs.

The Committee for the Management of Articulations between UFRJ – Companies/Science Park is formed by UFRJ employees and its main duty is to articulate an interaction between the companies settled in the Park and the university bodies. It defines the guidelines for prioritizing the actions and initiatives that are relevant for UFRJ together with the resident companies of the Park. Another duty of the Committee is to evaluate the investments made in UFRJ by the Park's resident companies because these investments are included in the concession contracts.

Committee for the Management of Articulations

## COMMITTEE FOR THE MANAGEMENT OF ARTICU-LATIONS BETWEEN UFRJ – COMPANIES/SCIENCE PARK

President: Professor PABLO BENETTI

Executive Secretary: Professor JOSÉ CARLOS COSTA DA SILVA PINTO

- o Professor ÂNGELA MARIA COHEN ULLER
- o Professor CARLOS FREDERICO LEÃO ROCHA
- o Professor DÉBORA FOGUEL
- o Engineer MAURÍCIO DE VASCONCELLOS GUE-DES PEREIRA (until October 2015)
- o Professor ROMILDO DIAS TOLÊDO FILHO

Finally, the Advisory Committee of Architecture and Urban Planning is formed by representatives of the university's technical office, the Faculty of Architecture and Urban Planning, the Office of the Vice Rector of Development and Extension, and the technical team of the Park. Its main duties are to define the criteria

for land use and to analyze the companies' projects according to these criteria. Because the park is located in a federal area, it is not administered by the Municipality of the City of Rio de Janeiro. Therefore, it does not follow template parameters pre-established by the municipal power. The representatives of the Advisory Committee are listed in the Figure.

Committee of Architecture and Urban Planning

# ADVISORY COMMITTEE OF ARCHITECTURE AND URBAN PLANNING

Representative of the coordination Park's team: Teresa Costa

Representative of the Vice Rector of Development and Extension: Flávio Ferreira Fernandes

Representative of the campus administration: Miguel Fontes Pinheiro

Representative of Faculty of Architecture and Urban Planning: Eduardo Pereira Hort

In 2012, four thematic Working Groups (WG) were created: Shared use buildings; Infrastructure and Services; Security; and Social and Environmental Responsibility. The Social and Environmental Responsibility WG has become the main forum for discussing issues related to sustainability, playing a part in attracting the existing initiatives of the companies and in proposing new projects to the Park.

For the year of 2016, the Park's management planned to resume this mechanism of participation of the resident institutions on the sustainability theme, establishing new work plans aligned with the companies, aiming to generate concrete impacts on the UFRJ Science Park's region



#### WHY DO COMPANIES COME TO THE PARK?

Voted Brazil's Best Science Park in 2013 by the Brazilian Association of Science Parks and Business Incubators (Anprotec), the UFRJ Science Park is an environment of cooperation between entrepreneurs and the academic community. Its aims are the strengthening of innovation capacity, the creation of wealth and the society's well-being.

Two historical milestones were crucial to the emergence of the Science Park. In 1963, the creation of the Institute for Graduate Studies and Research in Engineering (Coppe) at UFRJ paved the way to the development of other innovative initiatives in the University. Then, ten years later, in 1973, the establishment of a Research Center by Petrobras on the island promoted the interaction between companies and UFRJ. The UFRJ Science Park holds a unique opportunity for intensive business in knowledge and it is strategically located in a very special city. With over 6 million inhabitants, Rio de Janeiro is the second largest city in Brazil and the third largest in Latin America.

Although the strategy for attracting companies is not based on the concession of financial exemptions, the companies that set up in the Park have an ISS tax reduction (Law no. 5.344). Given the innovative profile of resident companies, they are granted other types of benefits, too.



## **COMPANIES AND LABS SET UP IN THE PARK ON DECEMBER 31 2015**











































































































One of the objectives defined by the University Council for the UFRJ Science Park was to give greater visibility to the technological vocation of the city of Rio de Janeiro and of the University City. Therefore, the Park has become a significant environment for innovation that gathers companies and university labs in order to generate wealth and welfare by producing knowledge applied to the market reality. Turning knowledge and innovation into value demands competitive business models. The more the economy of knowledge develops, the more new contributions from the university are possible and necessary.

### Examples of innovation born in the Park:

- The multinational company FMC Technologies developed a pioneering system: the Water-Oil Subsea Separator (WOSS), used in the Marlim Sul oil field (one of Brazil's greatest oil producers). The equipment – the sole in operation in the world – separates oil from water and sand that come together during the extraction process.
- The Ambidados company, a medium-sized enterprise located in the Park, developed the Meteo--oceanographic Buoy, used to collect data in real time in any place in the ocean, collecting data related to oceanography aiming at assisting the offshore market with highly reliable information.
- Oilfinder, resident company in the Business
  Incubator of Coppe/UFRJ, developed pioneering
  technology capable of finding the location of
  sources of oil on the seabed, using only remote
  technologies, thus preventing all environmental
  and operational risks associated with the vessels
  and equipment logistics.
- SeaHorse, a resident company in the Business Incubator of Coppe/UFRJ, created an innovating system capable of generating electricity using ocean waves. This very same technology can also be used to desalinate seawater and, thus, produce potable water for human and industrial consumption, as well as for irrigation.

#### THE PARK'S ECOSYSTEM OF INNOVATION

In 2015, the interactions that occurred in this innovative ecosystem covered the following topics:

Characterization and modeling of reservoirs	Carbonates and Enhanced Oil Recovery	Development of different vines in different environments
Characterization of drilling fluids	Full Waveform Inversion	Development of new enzymes
Tubular products for critical applications	New materials development and qualification	Sustainability in the energy, water and mobility areas
Energetic Efficiency	Umbilical Cables	Sensors and Telemetry
Oil Exploration	New Asphalt Technologies	Geosciences (Geochemistry and Geomechanics)
Natural Gas	Flow assurance	Fluid Mechanics
Rotor dynamics	Nanotechnology	Subsea systems
Water Treatment	Connections	Corrosion and Fatigue
Pipelines	Risers	Welding
Completion	Drilling	Cementing
Stimulation	Automation and Control	Robotics
Petrophysics	Fracture mechanics	Compressors
Machine Learning	Electromagnetic compatibility	Big Data

The UFRJ centers that have interacted with the Park's companies were:

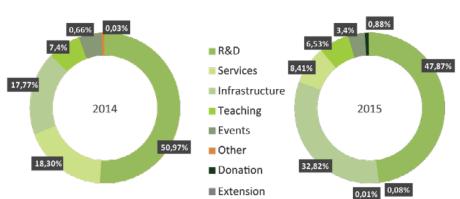
- Center for Technology (CT)
- Center for Letters and Arts (CLA)
- Center for Law and Economic Sciences (CCJE)
- Center for Mathematics and Nature Sciences (CCMN)
- Center for Philosophy and Human Sciences (CFCH)
- Forum of Science and Culture (FCC)
- Center for Health Sciences (CCS)
- Pro-Rectory of Undergraduate Studies (PR-1)
- Pro-Rectory of Graduate Studies and Research (PR-2)
- Pro-Rectory of Planning and Development (PR-3)
- Pro-Rectory of Human Resources (PR-4)
- Pro-Rectory of Extension (PR-5)
- Pro-Rectory of Management and Governance (PR-6)

Part of this interaction is the result of the efforts made by the Park in articulating the cooperation between the agents that constitute the innovative ecosystem. In this context, the Park has created a tool called Interaction Cells whose aim is to keep a permanent interaction with the resident companies by monitoring the degree of interaction. In 2015, the investments of cooperation established between the university and resident companies can be listed as follows:

- R&D: projects with a focus on R&D;
- Teaching: investments in training and qualification;
- Events: sponsoring of academic and cultural events;
- Extension: actions that privilege the University City and that should receive the explicit support of PR-5 (Pro-Rectory of Extension);
- Services: use of laboratories for tests, trials and other demands of the companies;
- Infrastructure: investments allotted to infrastructure projects connected with research activities in laboratories, teaching and cultural activities of the UFRJ departments;
- Donation: investments donated to the university, namely to the Science Park's Fund of Grants; donation of equipment, products, software licenses and other resources;
- Other: other investments that were not listed here and that are considered as part of cooperation by the Committee for the Management of Articulations.

#### Investments contracted by the companies by cooperation type

investments contracted by the companies by cooperation type				
Types of investment	Contract values (2015)	% (2015)	Contract values (cumulative)	% (cumulative)
R&D	R\$ 5,886.142	86,12%	R\$ 61.066.055	47,87%
Teaching	R\$ 658,837	9,64%	R\$ 8.328.592	6,53%
Events	R\$ 232,406	3,40%	R\$ 4.336.669	3,40%
Services	R\$ 45,200	0,66%	R\$ 10.731.707	8,41%
Extension	R\$ 12,000	0,18%	R\$ 12.000	0,01%
Infrastructure	R\$ 0	0,00%	R\$ 41.859.240	32,82%
Donations	R\$ 0	0,00%	R\$ 1.118.902	0,88%
Other	R\$ 0	0,00%	R\$ 100.000	0,08%



#### Investiments by type of cooperation made until December

#### INVESTMENT MADE BY THE RESIDENT COMPANIES

Considering the cumulative values up to December 2015, the resident companies have invested a total amount of R\$ 132.730.722,00. Out of this, R\$ 127.553.165,00 came from projects that were classified as cooperation projects by the Committee for the Management of Articulations UFRJ – Companies/Science Park.

The table below indicates the contract values in 2015 and the cumulative value up to 2015 by category, considering all resident companies – small, medium and large-sized companies.

If one considers all types of investment, it is clear that companies invest the most in R&D projects as this represents almost 90% of the investments in cooperation that were made in 2015.

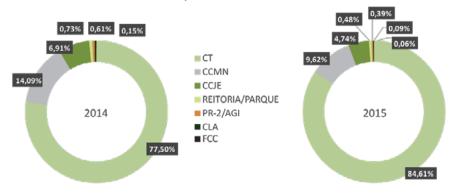
Regarding the cumulative contracted investments, the charts below illustrate the comparison of the situation in the end of 2014 and 2015:

<sup>\*</sup>Cooperation projects correspond to the projects sent to the Committee for the Management of Articulations between UFR-J-Company/Science Park for an assessment of the contractual counterparts of investment in UFRJ. The companies Ambev, BG Group, EMC<sup>2</sup>, Georadar, Halliburton, Siemens, Tenaris and Vallourec have to invest a minimum amount of money in cooperation projects with UFRJ on a yearly basis. In contrast, the first companies set up in the Park – Baker Hughes, FMC Technologies and Schlumberger – do not have to meet that rule. It should be noted that GE, a resident of the Park until August 2014, still makes cooperation investments even though it has left the Park. Small and medium-sized companies follow a different method for cooperation called "Point System". The method was developed in the first semester of 2015 and approved by the Board of Directors on June 10 2015. It establishes that companies need to win 1000 points in cooperation during the term of their contracts. The companies can do this in both financial and non-financial ways.

Investments	mada bu	tha camp	aniac in the	LIEDI unito

UFRJ units	Contract values (2015)	% (2015)	Contract values (cumulative)	% (cumulative)
CT	R\$ 6.234.417	91,22%	R\$ 107.925.553	84,61%
CCJE	R\$ 258.737	3,79%	R\$ 6.044.941	4,74%
CCMN	R\$ 246.431	3,60%	R\$ 12.268.322	9,62%
FCC	R\$ 80.000	1,17%	R\$ 80.000	0,06%
RECTORY/PARK	R\$ 15.000	0,22%	R\$ 614.350	0,48%
PR-2/AGI	R\$ 0	0,00%	R\$ 500.000	0,39%
CLA	R\$ 0	0,00%	R\$ 120.000	0,09%

#### Investments by unit accumulated until December



When the two periods are compared, it can be observed a decrease in the percentage of investments in R&D (in relative terms: 6%) as well as in services (54%) whereas the investment in infrastructure increased (85%) and a new type was included: the extension. The change in the distribution of investments by type of cooperation can be explained by the fact that two specific projects were included: Vallourer's building and the laboratory for Experimental Enhanced Oil Recovery in Brazil. What is more, one of the companies sponsored a university extension project called "Solar Team Brazil?". This way, the percentage allotted to projects on infrastructure surpassed that of the services, which indicates a reversal in the panorama when compared to December 2014.

#### Contracted investments by the companies in R&D by UFRJ units

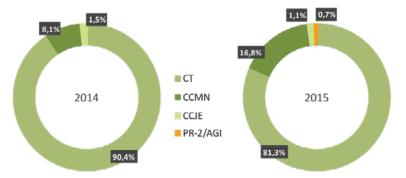
UFRJ units	Contract values in R&D (2015)	% (2015)	Contract values in R&D (cumulative)	% (cumulative)
CT	R\$ 5.598.617		R\$ 47.956.711	
CCMN	R\$ 179.025	3,04%	R\$ 9.927.071	
CCJE	R\$ 108.500	1,84%	R\$ 676.860	
PR-2/AGI	R\$ 0	0,00%	R\$ 440.000	

7 There is a team of students and teachers of UFRJ which participates in competitions around the world to support the development of techniques for a better use of solar energy. They are part of the Solar Challenge Brazil, a rally competition, in which boats travel a great distance by sea, rivers or lakes. The boats are propelled by electric motors and use solar energy that comes from solar panels and is stored in a battery bank.

Regarding the interaction with the UFRJ centers, it can be observed that the contracted and cumulative values in 2015 are:

As it can be observed from the analysis of investments by type of cooperation, the allocation of the companies' resources in R&D projects is very significant. The table below illustrates the distribution of investments in this particular type of cooperation throughout 2015 as well as its cumulative value until 2015 for each UFRJ unit. Similarly, to the consolidated analysis of investments, in which all types of cooperation are considered, the table below indicates that the Center of Technology played a very important part in hiring R&D projects of the Park's companies.

### Investments in R&D by UFRJ unit accumulated until December

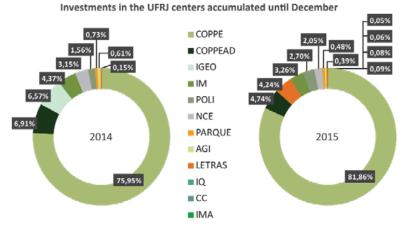


The investments in R&D made by the companies that were accumulated until December 2014 and those accumulated until December 2015 in each center of the University can be compared from the graphs below. In 2015, there were two significant changes in the

Investments made by the companies in the UFRJ centers

UFRJ centers	Contract values (2015)	% (2015)	Contract values (cumulative)	% (cumulative)
COPPE	R\$ 6.035.250	88,30%	R\$ 104.418.980	81,86%
COPPEAD	R\$ 258.737	3,79%	R\$ 6.044.941	4,74%
IM	R\$ 216.430	3,17%	R\$ 4.155.697	3,26%
POLI	R\$ 174.167	2,55%	R\$ 3.441.367	2,70%
CC	R\$ 80.000	1,17%	R\$ 80.000	0,06%
NCE	R\$ 30.000	0,44%	R\$ 2.609.096	2,05%
IMA	R\$ 25.000	0,37%	R\$ 65.206	0,05%
PARK	R\$ 15.000	0,22%	R\$ 614.350	0,48%
IGEO	R\$ 0	0,00%	R\$ 5.403.630	4,24%
AGI	R\$ 0	0,00%	R\$ 500.000	0,39%
LETRAS	R\$ 0	0,00%	R\$ 120.000	0,09%
IQ	R\$ 0	0,00%	R\$ 99.898	0,08%

distribution of the investments: 1) there was a 107% increase in the participation of the Center of Mathematics and Natural Sciences in R&D projects, due to the inclusion of a project that had been hired in 2012; and 2) the Pro-Rectory of Graduate Studies and Research (PR-2) was included here, project created by a company in partnership with the Agency for Innovation, which is part of PR-2, was considered as R&D.



The values that were contracted throughout 2015 and accumulated until December 2015 in each UFRJ center (considering all resident companies, namely small, medium and large-sized companies) are given in the table below.

The charts below illustrate the difference between the years 2014 and 2015. It can be observed that the representation of COPPE increased by 8% and that of POLI increased by 73%. This is because projects were hired in 2015 and projects who had been previously signed were submitted to the approval of the Committee for the Management of Articulations in 2015.

## INTERACTION BETWEEN UFRJ AND RESIDENT COMPANIES

In addition to the cooperation projects of interest to the companies, there are also projects of interest to UFRJ<sup>8</sup>. These can be initiated by both professors and students.

The projects of interest to UFRJ, also called "Initiatives of UFRJ", constitute another option for the resident companies to comply with the clause requiring that investments be made in cooperation with the university. This way, the companies are offered a portfolio of projects in different categories that are qualified as cooperation projects by the Committee for the Articulation. The previous qualification by the Committee can be used as a favorable argument in the negotiation of the UFRJ applicant with the companies.

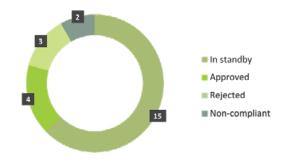
Since the requests for sponsorships began to be controlled in 2012, 84 sponsorship requests were sent to the Committee by UFRJ members. Twenty two of the 84 requests were supported by the resident companies. In 2015, 24 requests were made and 22 were approved because they were considered cooperation projects. Four of them were supported by resident companies. When compared to 2014, the year of 2015 saw a reduction of 33% in the number of requests. The chart below illustrates this comparison:

#### Comparison of 2014 and 2015



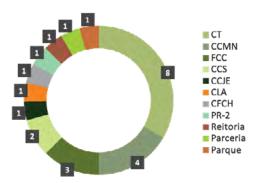
By the end of 2015, only 2 initiatives were not considered. The following chart provides a summary of the initiatives submitted in 2015:

#### Initiatives submitted in 2015



Of all UFRJ centers, the Center of Technology (CT) was the most expressive applicant, followed by the Center of Mathematics and Natural Sciences (CCMN) and by the Forum of Science and Culture (FCC), as shown in the graph below.

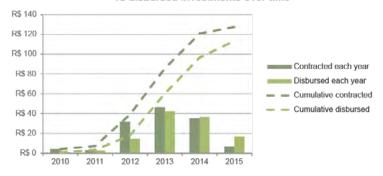
#### Initiatives by UFRJ unit in 2015



## CONTRACTED INVESTMENTS VS DISBURSED INVESTMENTS

The chart below shows the investments made over time by all companies (small, medium-size and large companies), considering yearly and cumulative values.

#### Analysis of the contracted investments vs disbursed investments over time



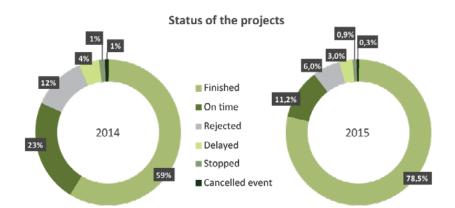
The contracted and disbursed amounts of 2014 and 2015 are given in the table below:

	Contracted amounts	Disbursed amounts
2014	R\$ 35.209.614	R\$ 36.510.408
2015	R\$ 35.209.614	R\$ 16.812.987

It can be observed that there was a substantial decrease in 2015 in the contracting of projects (-81%) as well as in the disbursing of projects (-54%). The decrease in contracting is higher due to the macroeconomic context of recession, especially in the gas and oil fields. It should be noted that the investments considered for this analysis were considered cooperation projects by the Committee for the Management of Articulations. Some projects were contracted and the disbursing was complete but they were not submitted to the Committee's evaluation. However, they can still be assessed by the Committee. There are 49 projects whose contracts totalize R\$ 7,502,875.00 (signed until 2012) for which R\$ 2,483,492.00 were disbursed.

#### OVERALL STATUS OF THE PROJECTS

The charts below show the status of the projects of the companies according to the quantity of contracts in percentage terms based on December 2014 and December 2015, respectively.



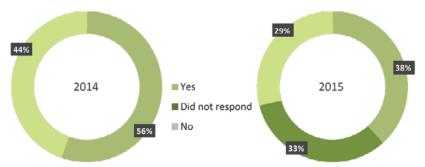
According to the chart, the most part of the projects has been concluded. 14,2% of the projects are ongoing, of which 79% are on time and 21% are delayed.

## COOPERATION BETWEEN THE COMPANIES AND PETROBRAS

One of the missions of the Science Park is to contribute to a greater relation between the companies of the Park and the companies of their corresponding production chains

To assess this issue, we surveyed the companies so as to understand whether they had offered Petrobras any product, service or technical cooperation in 2015. As shown in the figure below, it can be observed that a little over one third of the companies established some kind of cooperation with Petrobras over the last year.

#### Companies that offered Petrobras some type of product, service or technical cooperation

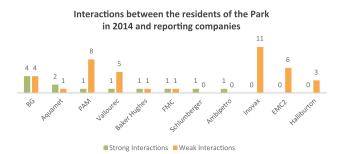


In contrast to 2014, there was a decrease in the number of resident companies that established any kind of technical cooperation with Petrobras. This may be due to the significant cut in the budget that Petrobras released for R&D.

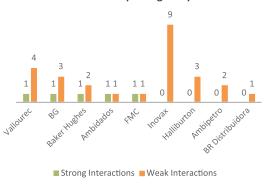
#### CORPORATE RELATIONSHIPS IN THE SCIENCE PARK

The figures below present the number of interactions that each company established according to the intensity of the relation (strong or weak) in 2014 and 2015, respectively.

This item was assessed on the basis of a survey made by the Park with the resident companies. The data obtained and used correspond to the data given by the only companies that answered the survey, which does not portray the entire universe of the resident companies of the Park. To assess this question, we asked the companies if they had established any kind of relation (commercial or technical cooperation) with the resident companies of the Park, with the incubated companies and with the laboratories set up in the Park. In total, there were interactions. The two answer types were considered: "weak interaction" (the companies talked about establishing a relation but did not close a deal), "strong interaction" (they closed a deal and/or implemented a plan) and "did not establish an interaction".



## Interactions between the residents of the Park in 2015 and reporting companies

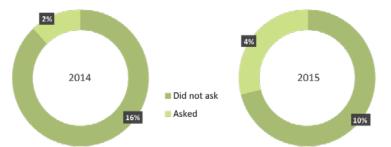


#### INTELLECTUAL PROPERTY

The number of requests for intellectual property is an indicator frequently used to assess the innovative activities in institutions and organizations. In order to obtain that number, the resident companies were asked<sup>10</sup> if they had secured intellectual property rights in the National Industrial Property Institute (INPI) regarding any research carried out in the Park.

"The data presented here is based on a survey of the Park's companies, i.e. the data comes from respondents only. The companies that did not answer the survey were: Ambev, Aquamet, Georadar, ILOS, L'Oréal, Maemfe and PAM Membranas. In 2015, 4 out of the 14 respondents stated that they had filed for intellectual property rights and 10 said that they had not.

#### Secured intellectual property rights in the National Industrial Property Institute (INPI) regarding any research done in the Park



It should be noted that Intellectual Property is not the only indicator for assessing innovative activities despite being an important one. In fact, there are several instances in which the adequacy of that indicator for certain industries needs to be discussed. In the case of the Park's companies, some believe that it is more appropriate to keep an industrial secret rather than using patents. All in all, the Park is evaluating the extent to which a better knowledge of the possibilities for using the INPI instruments can increase the numbers on intellectual property or not, because these are necessarily involved in any monitoring and evaluation processes.

## EVENTS OF INNOVATION AND INTEGRATION BETWEEN COMPANIES, UFRJ AND SOCIETY

In 2015, 7 meetings were promoted in the Park aiming at showing the competencies of different areas within UFRJ for potential residents and people interested. These events had the participation of people involved in projects and researches at UFRJ, students and workers of different institutes and representatives and trend setters.

Event	Guest	Date	What was it?	Objective
Meetings at the Park	Companies of the Park	Monthly	Series of events named "Meetings at the Park", intended to link the Park's companies, UFRI's faculty and students and other institutions of interest	Promote a positive agenda; Stimulate networking between the residents at the Park and UFRI researchers; Inform and update the residents about legislation changes in the regulation agencies and other topics of interest for the companies and; Disseminate studies from reference institutes
Visit	Vice-director and COPPE professor, Romildo Dias Toledo	05/11/2015	Meeting between the UFRJ academic community, the Park and the companies incubated at COPPE incubator.	Present Embrapii, a COPPE unit. 45 people participated, among them, representatives from the resident companies, companies from the COPPE Incubator, as well as the UFRI academic community and external companies.
Workshops for potential residents	Harlan Laboratories	06/15/2015	Meeting between researchers, pharmaceutical companies and research support councils and foundations with Harlan laboratory	Evaluate the possibility of installing a Harlan unit at the Park to supply both products and services aimed at developing new molecules and ensuring the security of new medications. The company presented its demands and the government representatives evaluated the possibilities of encouragement strategies to attract the company. There were 30 participants in the event.
Post- Incubation	Companies at COPPE Incubator	07/16/2015	Meeting between the Park, the COPPE Incubator and the incubated companies	Present the Park's post-incubation program. Eight companies from the CPPE Incubator participated in the meeting, discussing the proposals raised
Workshops with the resident companies and the interested audience	BNDES	07/17/2015	Meeting between BNDES and the resident companies	Become familiar with the way the UFRJ Science Park works, appreciate the relevance of science parks in general, understand the role of the Park in contributing to the development of innovating companies and understand the financing needs of the resident companies.

Meeting	ONIP	09/16/2015	First "Meetings at the Park"	Present the study to produce and distribute oil and gas in the state of Rio de Janeiro. The speakers at the event were Jorge Bruno and Carlos Camerini and it was of great interest to the Park's residents and to the academic community as well. There was an audience of 25 people.
Meeting	ANPEI	10/07/2015	Meeting between the Park's resident companies, the companies at the COPPE Incubator, external companies and institutions of interest such as ONIP and SEBRAE/RJ	Present a pilot initiative to develop a methodology to bring together companies of different sizes based on their competencies. This project is developed in association with FMC Technologies and six companies from the Incubator.
Meeting	Asset Management in IP	12/08/2015	Second "Meetings at the Park"	Present "General Concepts of Intellectual Property for technology-based companies". Daniel Eloi, founding partner of PRIS was the speaker. There were 25 participants in this meeting, essentially people from the academic community and from the COPPE Incubator companies.



G4-6; G4-8

Ever since it was created, the Park has been strengthening the innovation environment of both the city and the state of Rio de Janeiro and becoming an important agent for economic development strategies. In 2015 the UFRJ Science Park had an active role in the Projeto Rio Visão 500 – the Strategic Planning of Rio de Janeiro for the next years – more particularly in the discussion of the topic "Competitive, Innovative and a City of Opportunities".

The Park has also actively participated in the development of the 85 Constitutional Amendment (EC-85), which stimulates scientific and technological development as well as innovation. The amendment alters several constitutional provisions to improve the articulation between the State and the public and private research institutions.

Even though the Park's companies are R&D centers, it is not part of their mission to sell or to provide services. Sometimes, these activities correlate with R&D activities. This way, the 14 companies located in the Park generated R\$ 2,308.423.00 in state taxes (ICMS-Brazilian tax on the circulation of goods, interstate and intercity transportation and communication services) and R\$ 5,485,097.00 in municipal taxes (ISS – Taxes on Services), totalizing R\$ 7,793,520.00. A 20% increase in relation to 2014.

G4-9

In addition, the Park contributed to improving the qualification level in the region. In 2015, the Park created 1647<sup>11</sup> direct jobs. These professionals worked at the Park's Administration, at the resident companies, at the Coppe Business Incubator and at the laboratories located in the Science Park.

#### **Collaborators of UFRJ Science Park**

	2014	2015
Park's Administration	54	50
Resident Companies and Laboratories	1922	1.597
Total	1976	1.647

<sup>&</sup>quot; It is important to note that in 2015 the number of employees at Ambev, Aquamet, Georadar, ILOS, L'Oréal, Maemfe and PAM Membranas was not considered. PAM Membranas did not inform the number of workers in 2015. Ambev Research Center is being built, therefore, the number of workers circulating in 2015 would be related to the construction activities, with no RD&I nature. Aquamet, ILOS and Maemfe left the Park in 2015, before the number of workers was accounted for. (reference: 12/31/2015). Georadar is a particular case since its premises have not yet started to be built. BG-Group is finishing up the construction of its R&D Center and the workers are physically located at its office in Rio de Janeiro's city center. However, invariably, some of the workers from the research center circulate on the campus to follow up the ongoing projects with the university.

In relation to 2014, there was a 14.4% decrease in the number of direct jobs.

As for the qualification of the Park's collaborators, there were no significant alterations. Between 2014 and 2015 there was a percentage increase of PhDs and doctoral students – from 10% to 13% – and of graduated/under-graduated – from 54% to 60% and, conversely, there was a percentage decrease of Maters holders/Master's students – from 18% to 14% – and, of professionals who have completed high school / still in high school – from 16% to 12%.

G4-10

Data reveal that the number of trainees in the Park presented a favorable scenario for UFRJ in 2015, reverting the situation observed in 2014. 113 UFRJ trainees were hired, which represents 62% of the total of trainees and 70 students from other universities were hired by the companies, laboratories and institutions installed at the UFRJ Science Park. In absolute terms, there was a 38% reduction concerning the number of trainees who were hired.

G4-9; G4-10; G4-LA1

## PROFILE OF THE COLLABORATORS AT THE UFRJ SCIENCE PARK ADMINISTRATION

The UFRJ Science Park administration started 2015 with a team of 54 employees distributed in 4 management functional offices and 2 coordination offices, as well as 39 outsourced employees working in the security and landscape gardening areas. At the end of 2015, the Park had 50 collaborators. Throughout the year, 8 workers were hired, 6 as substitutes for existing jobs. The turnover rate of the year was of 24%, with a 25% turnover rate of women and 23% of men.

Among the 50 collaborators, 56% were women by the time the report was conducted. From this total, 18% had management and coordination jobs. From the men's percentage remaining, 23% had management and coordination jobs. The age average among the Park's collaborators is 36, ages varying from 19 to 62. As for the outsourced at the Park, 95% (37) of the workers are men and 5% (2) are women.

From the total of collaborators at the Park administration, 80% are CLT (Consolidated Labor Laws) employees hired by COPPETEC Foundation. The Park has 2

workers from UFRJ, 5 grant holders, 5 trainees and 1 young apprentice. According to the level of education, from the 50 workers, 24 have a university degree, which means bachelors, masters and PhDs and some who have taken specialization courses. By the time the results for this report were collected, 24 out of the other 26 collaborators had finished high school, elementary school or a technical school.

Of the total number of employees, 46% declared they are white, 14% black and 36% pardo (brown-skinned). Among the Directors, Managers and Coordinators (11), 55% declared they are white, 36% pardo and 9% black. As far as their place of residence is concerned, from the 50 Park's employees, 31 live in districts in the North Part of the city, among them 4 in poor neighborhoods and 2 in the campus townsite. Eight of them said they lived in the south part of the city, 5 in Niterói and São Gonçalo and 3 in the West part and Baixada Fluminense.

#### G4-LA9 ENGAGEMENT OF THE COLLABORATORS



As part of its talent- encouraging policy, the Park stimulates the specialization of its collaborators, funding at least 50% of their qualifying and refreshers courses tuitions. In 2015, 34% of the collaborators (17) participated in the program. The training courses consisted of 2400 hours throughout the year, with an average of 50 hours per worker (average of 27 hours per female worker and 64 hours per male worker).

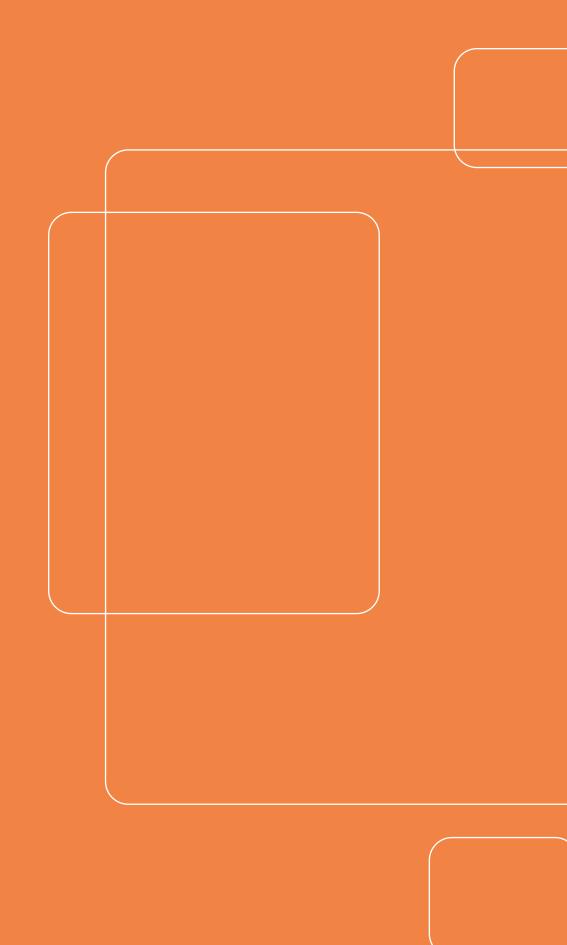
In addition to this program, other training courses were offered by the Park to its collaborators and outsourced employees, among which Basic First-Aids and Training for Voluntary Brigades. Eighteen collaborators participated, among them 10 outsourced and 8 regular ones.

Another program developed by the Park was the course named Audience Training, in a partnership with the Culture Department of the State of Rio de Janeiro. It aimed at increasing or creating access to cultural activities for the internal public. In total, 70 collaborators had the chance to attend cultural performances, with an average of 14 people per performance. Out of this total, 6 collaborators were a resident company at the Park. Five performances were attended, including

classical music, opera and theater plays, both comedies and musicals.

## G4-12; G4-13 RELATIONSHIP WITH THE SUPPLIERS CHAIN OF THE PARK

The suppliers and service providers of the Park are companies hired after a call for tenders and they are required to comply with the current legislation. Among the suppliers and service providers of the Park, the roles of the following companies stand out: Kimberly Clark, Higycare Distribuidora, Rodocon, Raízes, Elevadores Otis, Thyssenkrupp Elevadores, Google, MV6 Carstation, Rio Alarme, Embratel/Claro, Int Print, Leenkeep Software and Quality Security. Kimberly Clark, Higycare Distribuidora, Rodocon, Raízes, Elevadores Otis, Thyssenkrupp Elevadores, Google, MV6 Carstation, Rio Alarme, Embratel/Claro, Int Print, Leenkeep Software e Quality Security.





# 8. MANAGEMENT OF THE PARK

(G4-9, G4-14 A 16, G4-EC1 E G4-EC4, G4-EC7, G4-EN3, G4-EN6, G4-EN8, G4-EN13) The UFRJ Science Park is managed by the CEO, whose functions comprehend the coordination of the Park's actions according to the guidelines established by the Board of Directors. He stays for 4 years and it is indispensable that he be either a worker or a professor of UFRJ, chosen by the Board of Directors and countersigned by the Rector.



In October, 2015, after 12 years in the job, Mauricio Guedes, creator and founder of the Park, retired and José Carlos Pinto became the CEO. He is a Chemical Engineer professor, at COPPE/UFRJ and former director of Coppetec Foundation. Mauricio is currently both a consultant and an advisor of the Park's Board of Directors.

The Executive Management of the Park is supported by 4 other management offices: Corporate Articulations; Operational Management; Architecture and Urbanism Design Projects, Administration and Finances; and 2 offices: Communication and Institutional Development, totalizing 50 employees. The COPPETEC Foundation is in charge of the financial management of the projects and contracts.

## THE MAJOR ATTRIBUTIONS OF THE MANAGEMENT AND COOR DINATION OFFICES OF THE PARK ARE:

**Corporate Articulation Management:** to promote interaction between the Park's companies and the UFRJ centers and research groups, creating direct and continuous channels to foster the university-company cooperation.

**Operational Management:** management of property security, of conservation and maintenance of common areas; management of conservation of the Park's biodiversity and landscape.

**Architecture and Urbanism Management:** design and/or review of the Park's architectural and landscaping Project including the design of sustainable projects aiming at energy.

**Administrative and Financial Management:** administrative and financial management of the contracts of the Pak including legal support to the middle areas and to the relationship with the companies installed, as well as human resources management.

**Communication Office:** activities of press consultancy, internal communication and social media management of both the Park and the Incubator, publicity of the Park's companies and institutional visits.

**Institutional Development Coordination:** support and create new corporate governance instruments for the Park, as well as support the strategic management of the Park; and stimulate an ecosystem of innovation and sustainability.

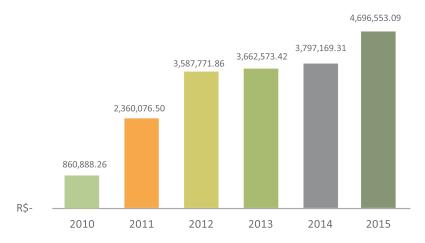
#### G4-9; G4-EC1

#### FINANCIAL MANAGEMENT OF THE PARK'S ADMI-NISTRATION

The management of the Park's financial resources is carried out in a partnership with a supporting foundation of the university, the COPPETEC Foundation. The Park's funding sources are of four different types: assignment of use of the shared buildings<sup>12</sup>; service charge of pieces of land<sup>13</sup>; service charge of shared buildings<sup>14</sup> and funding<sup>15</sup>.

The Park has an additional funding source which is the assignment of land<sup>16</sup>, according to the graphic below; however these resources are entirely transferred to the university.

#### **Revenues from Assignment of Park's Grounds**



 $<sup>^{\</sup>rm 12}$  Annual resources raised from the assignment of use (rent) of the areas of the companies located in the shared buildings.

<sup>&</sup>lt;sup>13</sup>Resources paid by the resident companies of the Park to defray the Park's operational costs, i.e., the services provided by the Park.

<sup>&</sup>lt;sup>14</sup>Resources paid by the companies located in the shared buildings to defray the Park's operational costs, i.e., the services provided by the Park.

<sup>&</sup>lt;sup>15</sup>Resources from projects submitted to funding agencies and institutions to the development of Science Parks.

<sup>&</sup>lt;sup>16</sup>Resources transferred to UFRJ.

#### G4-9; G4-EC1 FUNDING SOURCES OF THE SCIENCE PARK

#### Funding Sources of the Science Park - 2015

Service Charges Lands	6.838.528,58
Service Charges Shared Buildings	535.154,81
Assignment of use Shared Buildings	1.813.382,55
Funding Revenues (Finep)	2.000.000,00
Total	11.187.065,94

The resources derived from funding come from FINEP (Studies and Projects Financial Supporter), and, thus, should be used according with the project approved. These resources were used to modernize the website, purchase equipment, start the construction of the first part of the CUBO project<sup>17</sup> and buy plant seedlings to increase the Park's biodiversity.

The revenue received through the assignment of use of the shared buildings is not fully reverted to the Park's operational costs. One-third goes to a fund created by the Park, called Scholarship Fund, which is currently supporting the Scientific Initiation Scholarship Program for High Schools (Programa Institucional de Bolsas de Iniciação Científica para o Ensino Médio - PIBIC-EM). Another 1/3 is assigned to the program Parque Investe<sup>18</sup> (Park Invests), which aims at sponsoring UFRJ extension projects annually selected. Finally, 1/3 of these resources defray the required investments for the Park's operation.

Thus, the Park's operation is funded by:

### Sources of Funding that defrayed the Park's services and operational costs in 2015

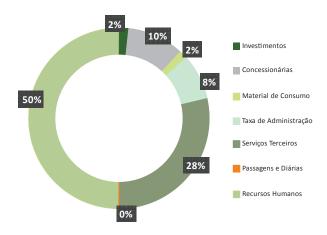
Service Charges- Lands	6.838.528,58
Service Charges - Shared Buildings	535.154,81
1/3 Assignment of Use – Shared Buildings	604.460,85
Total	7.978.144,24

The Park's operational costs in 2015 totalized R\$ 8,121,422.03, distributed according to the graphic below.

<sup>&</sup>lt;sup>17</sup> About the project, see the section "Humanization of the ParK".

<sup>&</sup>lt;sup>18</sup> See section "Management of the Park".

#### Custo operacional do Parque



G4-EC1

#### Annual Operational Cost - 2015

Concessionaire Companies	788.044,57
Consumption Materials	202.619,57
Tickets and Daily Expenses	36.343,89
Human Resources	4.023.400,17
Outsourced Services	2.290.001,31
Administration Fee	651.404,10
Investments	129.608,42
Total	8.121.422,03

G4-EC4

Thus, the Park finished 2015 with budget deficit of 1.8% in its revenue, which represents R\$ 143,277.79<sup>19</sup>. Two main reasons were identified:

- Recurrent default of UFRJ laboratories resident at the Park and
- Reduction in revenues due to a decrease in the occupancy rate of the Park's new spaces (there was low demand, probably due to an instable economic environment) and to the fact that five companies left the Park in 2015.

<sup>&</sup>lt;sup>19</sup> The revenues derived from the assignment of land received by the companies located on the Park's grounds through the assignment of use of the land, are directly collected and managed by the UFRJ rectory and, therefore, are not utilized by the Park for its financial balance. The amount collected in recent years totalizes R\$ <sup>19</sup>, <sup>009</sup>, <sup>984</sup>. <sup>10</sup>. Updated information on the assignment of use value is not available. For updating proposes, we use the IGP-M (General Index of Market Prices) accumulated in the last <sup>12</sup> months, which was <sup>10</sup>, <sup>9449</sup>%.

As a strategy to change this situation in 2016, the Park's Administration has been implementing an in-depth reorganization of its activities, focusing on operational costs-cutting (revision of contracts, team downsizing – not replacing employees who have voluntarily left) and on strategic management. As for the latter, one of its basic elements is revenue diversification, changing the strategy for attracting new companies , trying to maintain sectorial diversification of the Park and implementing the Strategic Planning of the Park (2016-2045), as a way of enhancing the actions related to the Park's sustainability in all its dimensions.

#### STRATEGIC MANAGEMENT OF THE PARK

On April, 2015, there was a workshop, mediated by EloGroup, aimed at identifying the major course of actions and activities that should be carried out, and, this way, help the diversification strategy and start the Park's strategic planning process for the coming years.

#### **MAJOR RESULTS**

Based on the discussion carried out, four "great battles" were listed. It is necessary to fight these battles and take initiatives so that the expansion and diversification strategy of the Park for the coming years is effective. They are the following:

- A. TAKE THE LEAD AS THE UNITING ELEMENT OF THE TECHNOLOGY-BASED INNOVATION INITIATIVES AT UFFJ
- **B.** ATTRACT COMPANIES AND DIVERSIFICATION
- C. REFORMULATION OF THE SERVICE AND VALUE PACKAGE
- D. STRUCTURE AND IMPLEMENT A MANAGEMENT MODEL

#### THE SUSTAINABILITY STRATEGY OF THE PARK



Sustainability has been a constant topic at the Park even before its opening. The decision of the University Council in 1997 to allocate an area of the university campus for the implementation of the Park reflected the University's strategic perspective of restoring a so far degraded area to start a new chapter in the history of UFRJ: an innovation environment, connected to UFRJ academic fields, to the city of Rio de Janeiro and to the world. In 2015, systematic action planning and activities have started to take place as well as the development of sustainability policies in the Park, which help UFRJ fulfill its institutional mission.

#### G4-14 THE SUSTAINABILITY POLICY OF THE PARK

In 2015, the Park started its Sustainability Policy, which is based on the assumptions of reaffirming its commitment with UFRJ on their common goal of building up a fairer society, which is also environmentally responsible, respectful of diversity and free of forms of oppression or class, gender, ethnic or nationality discrimination. The Park's policy intends to cooperate for the society's sustainable development, integrating the most effective global sustainability practices with its own proposal of value proposition, with its governance structure as well as with its organizational strategy.

Among the activities included in this policy, there are the support for bilateral initiatives with the resident companies, actions for improving mobility, information and communication infrastructure, sanitation (water, sewage, and residues), electricity, public security and the adequate environmental treatment to the climate of the Island and to the nature of R&DI activities.

#### **MAIN ACTIONS**

#### **PARK INVESTS**

The "Park Invests" program is a social investment Project of the Park and aims at effectively contributing to the UFRJ development, stimulating extension programs, projects and actions, either through direct funding, institutional support or helping fundraising from the resident companies, according to the Park's Policy for Support and Sponsorship.

#### Projects Invested:

Projects invested:			
Project	Number of students in the project	Amount of Social Investment	
Memorias do Boto (Memories of the River Dolphin)	80*	R\$ 202.439,59	
PIBIC-EM (Scientific Initiation Scholarship	80	R\$ 354.000,00	
Program for High Schools)			
UFRJ College Sports	350	R\$ 124.214,90	
UFRJ Challenges	112	R\$ 200.000,00	
Story Tellers Students from Martagão Gesteira	70	R\$ 6.685,00	
Pediatrics and Childcare Institute (IPPMG/UFRJ)			
Gilberto Velho Dissertation Prize	5	R\$ 50.000,00	
Total	617	R\$ 880.654,49	

<sup>\*</sup> The public of the exhibition was composed of all the people who circulated through UFRJ during that period

G4-EC7

Details of the projects are available at the Park's website: www.parque.ufrj.br

#### PARK MOBILITY<sup>22</sup>

The Park Mobility aims at facilitating people's displacement in the Park, on campus and in the City of Rio de Janeiro.

Actions included in the program: construction of de 4 crosswalks to reduce speed of circulating vehicles; electric car used for free transportation of the workers; carpooling through the Caronaê Application— carpooling ride among the University Island population; and construction of part of a bike lane.

#### **GREEN PARK 23**

The Green Park Program aims at permanently maintaining the Park's biodiversity – Project developed using native plants species of the local ecosystem and preservation of existing mangroves areas.

One of the activities developed by the program is the preservation of the Park's Garden, where the used species and seedlings are grown, and where composting

<sup>&</sup>lt;sup>22, 23</sup> Details of the projects are available at the Park's website: www.parque.ufrj.br

is carried out – recycling of organic residues to transform into fertilizer all the residues collected during maintenance of the green areas of the Park. Throughout 2015 200 trees, bushes and palm trees were planted, completing part of the landscape design of Phase 2 of urbanization.

G4-EN3, G4-EN6, G4-EN8

#### **ECO-EFFICIENT PARK**

The Eco-efficient Park program aims at fostering the reduction of environmental impacts and consumption of natural resources.

**ACTIONS:** 

G4-EN3 ENERGY

In 2015, the energy consumption of the Park's buildings was 442,518 KWh/ year, 25.55% less than in 2014. This happened because of the following measures were taken: restricting air conditioners operation hours, turning off elevators and raising awareness about the importance of the use of ambient lighting based on natural light of the building. In addition, in 2015, the UFRJ Science Park started, together with Rio de Janeiro City Government, to change the regular lamps to led ones.

#### WATER

In 2015, water consumption in the Park's buildings was 3,072 m³/ year, 48% less than in 2014. This happened because of the following measures were taken: raising awareness about water waste; stimulating more frequent use of cisterns that accumulates rainwater and operational planning and maneuvers to minimize waste when cleaning water tanks and cisterns.

#### RESTORATION OF THE SEWAGE SYSTEM

The Park's sewage system was gradually installed. In 2003 part of the sewage system project was carried out, since, at the time, the pumping station to connect the Park's sewage system to UFRJ had not yet been constructed. So, CEDAE authorized the resident companies at the Park to use of septic tanks and discharge of effluents in the rainwater drainage channel. In 2011, the sewage system was expanded, and was totally installed in phase 2 of the urbanization project and interconnected to the pumping station in the townsite. Today, the companies located on the grounds that are part of phase 2 are interconnected to the CEDAE sewage system. In 2015, a mapping of what

G4-EN3

had been built of the sewage system of phase 1 started to be made and the damaged sectors were identified. This action led to a recovery process of two stretches of phase 1 and to the interconnection with the phase 2 system. This allowed the interconnection of two buildings located on the grounds of phase 1 to CEDAE system.

Solid Residues: The collection system of the Park includes all solid residues classified according to the Brazilian standard NBR 10.004 /2004 as Class II residues (not dangerous) - A (not inert). The system works as follows: an outsourced company, with a proper INEA (State Environment Institute) operation license, comes to the Park daily to collect the container depots. After this stage, these residues are taken to a residues transshipment station (ETR), properly licensed by INEA as well.

#### G4-14 SOLID RESIDUES

The collection system of the Park includes all solid residues classified according to the Brazilian standard NBR 10.004 /2004 as Class II residues (not dangerous) - A (not inert). The system works as follows: an outsourced company, with a proper INEA (State Environment Institute) operation license, comes to the Park daily to collect the container depots. After this stage, these residues are taken to a residues transshipment station (ETR), properly licensed by INEA as well.

#### TRANSPARENT PARK

Activities are developed to ensure transparency while publicizing actions and activities of the Park and to increase knowledge of UFRJ and other interested public involved about the Park. For that end, some activities were developed throughout the year of 2015, among which: renovation of the Park's website, including spaces to publicize daily activities; creation of a Newsletter to send the Park's major news to around 650 people/public of interest; development of visiting program; and production of a Sustainability Report (decision made in 2015 after publicizing, during the last 3 years, the annual report of activities focusing on both financial management and accountability of the activities carried out).

The visits to the Park started in July, 2015. It is now open to all those who wanted to visit the Park, its research centers and facilities. From July to December of 2015, 849 people visited the Park, among them 558 Brazilians and 281 foreig-

ners. Among the Brazilians, 24 visiting groups consisted of representatives from companies, incubators, parks, universities, schools and UFRJ departments. Among the foreign visitors, there were 17 institutions, mostly representatives of research and teaching institutions from the US, Colombia, Denmark, Germany and Chile.

#### **CAMPAIGNS AND EVENTS**

Throughout 2015, different activities were carried out aiming at the integration with the external public and the UFRJ community, as well as at stimulating integration between companies and between the Park and the companies. Below, there is a list of these activities:

## WORKSHOP: INCLUSION OF DISABLED PEOPLE IN TECHNOLOGICAL ENVIRONMENT

Aiming at stimulating a debate on the inclusion of disabled workers in the job market, the UFRJ Science Park promoted the workshop "Inclusion of Disabled People in Technological Environment" on March 12.

#### ENVIRONMENT WEEK



Between June 1 and 3, the Park promoted initiatives to celebrate the National Environment Week. Several activities were carried out, including debates, exhibitions, workshops and tree planting, all of them with free access and open to the general public.

#### Results of activities of the Environment Week

Panels	95 attendees
Seedlings Planting	100 seedlings in 3 days
Workshops	23 attendees
Exhibitions	Around 2100 people

#### **EXHIBITIONS**

#### O MAR NÃO ESTÁ PARA PEIXE - PROVOCATIONS:

O mar não está para peixe – provocations: Sculptures created by students and professors from the UFRJ School of Fine Arts and made out of solid residues taken out of Guanabara Bay, inspired by the fauna which struggles to survive within this environment.

## MEMORIES OF THE RIVER DOLPHIN (MEMORIAS DO BOTO):

Esculturas de botos, confeccionadas em fibra de vidro Sculptures of river dolphins, made from glass fiber by experts from UFRJ Naval Architecture Laboratory, and painted by artists, professors and students from the Fine Arts School. All were inspired by Rio de Janeiro's icons, regions, characters or historical landscapes to pay homage to the city's 450th anniversary.





## THE SOCIAL JUNE OUTDOOR FESTIVAL (ARRAIÁ SOCIAL)



O Arraiá Social é uma festa julina feita pela comunidade The Social July Outdoor Festival (Arraiá Social) is a festival taking place in July, organized by the Science Park community aiming at increasing integration between the Park and the companies as well as calling on resources for social university extension projects. In 2015, the project supported was o Story tellers students from IPPMG/UFRJ (Martagão Gesteira Pediatrics and Childcare Institute)<sup>24</sup>.

<sup>24</sup> The Project's goal is to provide the UFRJ students with the opportunity to participate in a solidary activity which fosters the contact with realities different from the one they are familiar with, allowing them to acquire different interpretations of the world, broadening their social view as well as bringing joy and entertainment to the hospital environment through the reading of children's books. Today, there are 250 children suffering from highly complex diseases hospitalized at IPPMG.

#### G4-16 THE NETWORKS OF THE PARK

The Park participates in different networks of interaction with both the city and business and innovation ecosystems. Below, there is a list of the networks in which the Park has an active participation, having representatives in their governing boards:

- Technology Council of Rio de Janeiro's Industry Federation (FIRJAN),
- Superior Council of FAPERJ Fundação Carlos Chagas Filho de Apoio à Pesquisa do Estado do Rio de Janeiro (Carlos Chagas Filho Foundation for Research Support in Rio de Janeiro)
- City Council Rio de Janeiro's City Government,
- Advisory Council of ANPROTEC
- Technology and innovation Council of Rio de Janeiro Commercial Association (ACRJ)

The Park is a member of the following committees:

- Committee for Promoting the Relationship between Large and Micro and Small and Mediumsize companies as an Innovation lever - ANPEI
- Executive Group of the Industrial Complex of Life Sciences - GECIV RJ - Rio de Janeiro State Government

#### And is affiliated to:

- International Association of Science Parks and Areas of Innovation (IASP)
- National Association of Promoting Entities of Innovative Enterprises (Associação Nacional de Entidades Promotoras de Empreendimentos Inovadores - ANPROTEC)
- National Research and Development Association of Innovative Companies (Associação Nacional de Pesquisa e Desenvolvimento das Empresas Inovadoras - ANPEI)

#### COPPE/UFRJ BUSINESS INCUBATOR

The COPPE/UFRJ Business Incubator is an environment specially designed to stimulate the creation of new companies based on technological knowledge

generated by UFRJ research groups. The Incubator works as to convert the knowledge produced by research activities into innovating products and services which can be beneficial to the whole society. Opened in 1994, the Incubator was the basis for the professionals who created the current structure of the Park. While being part of the Park, the Incubator is the locus of the startups within this innovative ecosystem.



The Incubator's administration finished 2015 with 16 collaborators, among them, 10 working for the Administration, 4 external consultants and 2 trainees.

#### Figures of the Incubator in 2015

Number of companies that joined the Park in 2015	7
Number of resident companies	30
Number of graduate companies	55
Number of jobs (including the partners)	160
Number of masters and PhDs	94
Number of companies that participated in the selection*	92
Approximate total revenue	279 million**
Taxes paid by resident companies	Not determined

<sup>\*</sup> Two selecting processes were carried out during 2015

During its more than 20 years of operation, the Incubator has already supported the setting up of 86 companies, responsible for creating more than 1250 highly qualified jobs. The Incubator has set in the job market not only successful companies, but also a highly qualified labor force, with about 25% of Masters and PhDs at managing positions in those companies.

The Incubator carries out the following funding programs for their residents' entrepreneurship and development

<sup>\*\*</sup> These data are from 2014, since the ones related to 2015 were only available in May 2016.

- Take off (mentoring for business development

   qualifying, individual counseling and follow up carried out by the Incubator's management office)
- Technological Radar (prospection of technologies developed at the UFRJ laboratories which may potentially become promising businesses)
- Mentoring (partnership with COPPEAD and aims at approximating former COPPEAD students, with solid Professional experience and entrepreneurs who need mentoring to place their innovative businesses in the market)
- Entrepreneurs Club (gathers entrepreneurs from the Oil and Gas production chain, by promoting meetings between them)
- Demo Day (investors meeting with the objective of attracting investments in the resident companies)
- Prospection of New Technologies (active search for innovative Technologies at the UFRJ laboratories aiming at identifying promising businesses)
- Give a great push Empurra que vai (promoted by a partnership with UFRJ Innovation Agency, it consists of a selection of innovative business ideas within the UFRJ community)

The Incubator develops the following sustainability programs:

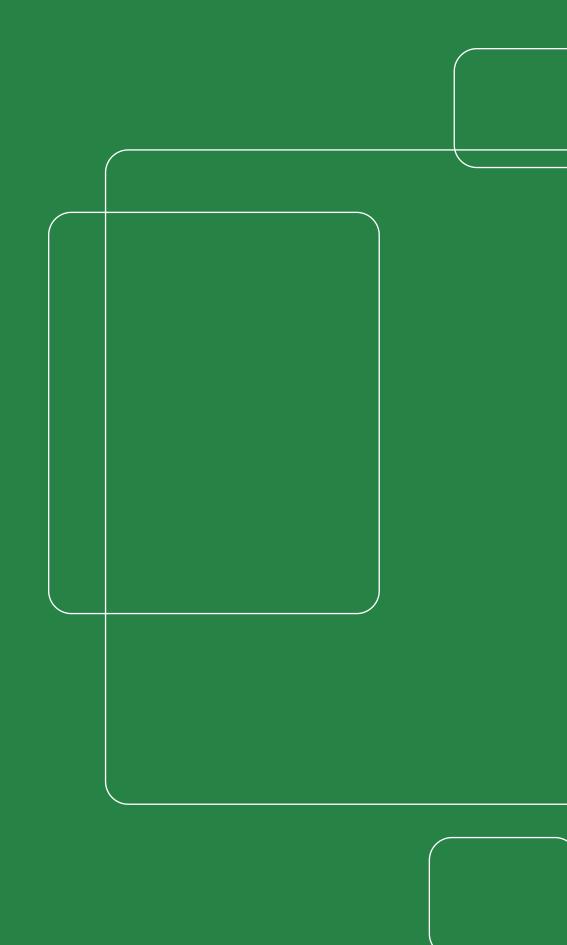
- Women Entrepreneurs (a series of meetings where a group of resident women entrepreneurs graduated from the Incubator discuss professional development aspects and strategies for overcoming gender prejudices within both the technological market and business environment in general)
- Technological Radar (prospection of technologies developed at the UFRJ laboratories which may potentially become promising businesses)

 Selective Collection (a program that separates the recyclable material from the common areas as well as from the resident companies. The system is integrated into the Recycle -UFRJ<sup>25</sup> responsible for the final distribution of the materials)

#### NEWS MEDIA EXPOSURE OF THE PARK

In 2015, the Park had a great news media exposure. Altogether there were 502 news reported, among which 299 were specifically about the Science Park and 203 about the COPPE/UFRJ Incubator. The incubated and graduated companies from the Incubator appeared in 215 reports throughout 2015.

<sup>26</sup> In 2007, the Federal University of Rio de Janeiro - UFRJ started to implement a selective garbage collection program at the institution. This initiative aimed at complying with the Environmental Agenda of Public Administration (Agenda Ambiental da Administração Pública - A3P), as well as with the Federal Decree nº 5.940, from October 25, 2006, which provides for the destination of recyclable residues to cooperatives of popular collectors, for environmental and social purposes. The program has two sorting centers, CT and Recycle CSS and sends the residues to cooperatives of recyclable materials collectors.





FUTURE (G4-8)

"It must be acknowledged that Brazil faces a highly turbulent period, characterized by a multi-faceted crisis which comprehends economic, political, legal, and institutional aspects, among many others. This period has caused negative impacts particularly on Research, Development and Innovation initiatives (R&D&I) taken by the country, since this sector is usually the most affected by structural economic crises and because the crisis has turned Petrobras into the epicenter of the turbulence. (...) The scenario becomes even more complex when it is taken into consideration that the world oil market has been suffering significant price reductions, which resulted in a final price per oil barrel of US\$ 40,00, although this price had hit more than US\$ 110,00 per barrel between 2013 and 2014. The reduction in the oil barrel price fully affects the pre-salt oil exploration (and, consequently, the investments made in the country by oil and gas operators and the R&DI activities in this sector), since it is constantly estimated that the costs of the pre-salt oil exploration may reach R\$ 70,00 per barrel."

The above analysis, conducted by the CEO of the Park, Jose Carlos Pinto, in an article published in O Globo newspaper, on December 28, 2015, shows the importance of investing in an agenda which aims at increasing competitiveness and at stimulating the diversification of activities.

#### G4-EC8 DIVERSIFICATION OF THE ACTIVITIES IN THE PARK



The current Master Plan, developed in 2002, defined Oil and Energy, Telecommunication-Informatics and Environment as the priority areas of action for the development of the first ten years of the Park. The oil and gas discoveries made in the pre-salt fields posed technological challenges in the field of border control, attracting to Rio de Janeiro world renowned R&D centers.

In 2015, based on a previously analyzed scenario, the Park established new strategic guidelines. One of them was the diversification of the Park's areas to attract new partners based on both internal and external studies carried out. In July 2015, Ambev became part of the group of the Park's companies, revealing

the positive result of the effort made by the Park's team to implement this new strategic guideline. In addition, L'Oréal, which has its research center being constructed at the moment on Bom Jesus Island, is an example of the orientation towards diversifying the prospection carried out by both the state and city governments. For the coming years, one the of Park's primary goals is to attract research centers of life sciences.

## INCREASE IN THE NUMBER OF SMALL AND MEDIUM-SIZED COMPANIES IN THE PARK (SMCS)

Another strategic guideline of the Park for the coming years is to increase the number of small and medium-sized companies in its structure. This strategy focuses on the development of new solutions capable of intensifying the innovation pace within this environment. In 2015, the total of 27 small and medium-sized companies were received in meetings until the end of 2015.

Two other initiatives were taken in 2015 to attract companies from this segment. They are:

- Post-Incubation: the small and medium-sized companies which left incubators from all over the country until a year ago receive special treatment so as to get installed in the Park.
- Coworking: a shared working area of around 313,5m² divided in 40 workplaces for private use, as well as a meeting room and socializing spaces. Possibility to increase networking and business by interacting with large, small and medium-sized companies already located in the Park.

#### 27TH ANPROTEC CONFERENCE

In October 2015, during the general assembly of the 25th ANPROTEC<sup>26</sup> Conference, Rio de Janeiro was chosen to hold the 27th edition of the largest and most relevant event in Brazil about entrepreneurship and Innovation environments. It was the Park that proposed Rio's nomination, supported by Rio de Janeiro's City Government, by REDETEC – (Network of Technology

<sup>&</sup>lt;sup>26</sup> ANPROTEC Conference is a National Seminar for Science Parks and Business Incubators that happens every year.

& Innovation of the State of Rio de Janeiro - Rede de Tecnologia & Inovação do Estado do Rio de Janeiro), by REINC (Network of Incubators, Technological Centers and Science Parks - Rede de Incubadoras, Polos e Parques Tecnológicos do Rio de Janeiro) and by FAPERJ (Fundação de Amparo à Pesquisa do estado do Rio de Janeiro - Foundation for Research Support in Rio de Janeiro). The event will take place at Sul América Convention Center, located in the city center of Rio, in 2017.

#### **HUMANIZATION OF THE PARK**



One of the Park's challenges for the coming years is to create a more pleasant environment for its community. For that purpose, in 2015, the Park started the first



construction stage of CUBO, a special place for cultural and leisure activities besides being a place used as an opportunity to networking enhancement. The CUBO Project was born in 2010 aiming at expanding the Park's scope of performance and maximizing its creativity and innovation ecosystem in an integrated manner with both the university community and the Rio de Janeiro's population.

Other actions already described in this report that have helped to humanize the Park were the exhibitions Memorias do Boto (Memories of the Dolphin) and O Mar não está para Peixe (These are rough times) and the event Arraia Social (Social June Outdoor Festival).

#### ÉRICA MARIA LOPES MENEZES



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